THE IDENTITY OF LIMNOCHARIS MATTOGROSSENSIS KUNTZE (LIMNOCHARITACEAE) AND ITS ALLIES

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ABSTRACT

A key to the species of Hydrocleys (Limnocharitaceae) is presented as well as full synonomy and distributional comments for each species. A new combination, H. mattogrossensis (Kuntze) Holm-Nielsen and Haynes is proposed.

INTRODUCTION

Kuntze (1898) published the name Limnocharis mattogrossensis Kuntze based upon a specimen from Mato Grosso, Brazil. Since that publication, botanists have been uncertain of the systematic affinities of the taxon. While preparing treatments of the Alismatidae for Flora Neotropica and several Latin American floras, we examined the Kuntze specimen from NY, which was clearly determined in the handwriting of Kuntze as L. mattogrossensis. This specimen consists mostly of seedlings, but a small fruiting inflorescence is enclosed in a fragment packet. This fruiting material is obviously an Hydrocleys, not a Limnocharis. This specific epithet has priority in Hydrocleys. As the nomenclature of Hydrocleys is important for the Flora Mesoamericana project, a project which probably will be published before our treatments appear, we are making the appropriate combination and are presenting a key to the species of Hydrocleys, as well as brief comments and full synonomy for each taxon.

Hydrocleys Rich., Mém. Mus. Nat. Hist. 1: 368 (1815). Type: Hydrocleys commersoni Rich.
Vespuccia Parl., Nuov. gen. sp. monocot. 55 (1854). Type: Vespuccia humboldtii Parl., = Stratiotes nymphoides Willd., = Hydrocleys nymphoides (Willd.) Buchenau.
Ostenia Buchenau, Abh. Naturw. Ver. Bremen 19: 23 (1906). Type: Ostenia uruguayensis Buchenau.

KEY TO THE SPECIES OF HYDROCLEYS

1. Leaf blade elliptic, ca. 2 times as long as wide, the base round, not conspicuously cordate; staminodia absent or, if present, fewer than 6 2
   2. Inflorescence often proliferating; stamens 3-6; carpels 3; leaf blade obtuse at apex and base, with 3-5 veins; glandular hairs of seed coat ca. 100 µ apart, not present on every epidermal cell, especially at base of seed ..... 1. H. modesta
   2. Inflorescence not proliferating; stamens 3-6;carpels 3; leaf blade round to round-acute at apex, round to weakly cordate at base; glandular hairs of seed coat ca. 50-70 µ apart, present on every epidermal cell of seed coat ..... 2. H. parviflora
1. Leaf blade ovate to orbicular, ca. 1.2 times as long as wide, the base cordate; staminodia many 3
   3. Flowers 1.5-2 cm wide; petals shorter than to slightly longer than sepals, erect, not spreading; stamens 4-6; carpels 4-6; glandular hairs of seed coat ca. 100 µ apart, present on every epidermal cell of seed coat ..... 3. H. mattogrossensis
   3. Flowers 5-7 cm wide; petals conspicuously longer than sepals, spreading; stamens more than 12; carpels 5-8; glandular hairs of seed coat variable 4
      4. Midvein of sepals conspicuous, often dark; stamens 12-18; glandular hairs of seed coat less than 50 µ apart, present on every epidermal cell of seed coat..... 4. H. martii

4. Midvein of sepals inconspicuous; stamens many; glandular hairs of seed coat, if present, 150-200 μ apart, not present on every epidermal cell of seed coat ..... 5. H. nymphoides

1. Hydrocleys modesta Pedersen, Bot. Tidskr. 57: 39 (1961). Type: Pedersen 3974 (Holotype, C!; isotypes, C!, S!, UPS!, US!).
Widely distributed from southeastern Argentina to east central Brazil.

2. Hydrocleys parviflorus Seubert in Mart., Fl. bras. 3(1): 117 (1847). Type. Martius, s.n., not seen.
H. grosourdyana Pedersen, Bot. Tidskr. 57: 38 (1961). Type: Grosourdy, s.n. (Holotype, P!; photo, C!).
H. oblongifolia Hoehne, Com. lin. telegr., Bot. 6: 4 (1915). Type: not seen, probably at SP.
H. standleyi Steyermark, Publ. Field Mus. Nat. Hist., Bot. Ser. 23: 31 (1944). Type: Steyermark 30416 (Holotype, F!; photo AAU!, UNA!, MEXU!).
Our most wide ranging species, occuring from Guatemala to Colombia and Venezuela, then Bolivia to east-central Brazil.

We have examined Martius specimens from BR, LE, and M, but have not found a Martius collection of this taxon. There is, in the original publication, an excellent illustration, pl. 8, fig. 1, of H. parviflora. This illustration matches the original description, and there is no other name that was available at the time with which one could confuse the taxon. We are, therefore, using the illustration as a guide upon which to base our concept of the name. The illustration would be available as lectotype material. However, as we have not examined all herbaria that contain Martius material, we are not so designating the illustration at this time.

3. Hydrocleys mattogrossensis (Kuntze) Holm-Nielsen & Haynes, comb. nov. Basionym: Limnocharis mattogrossensis Kuntze, Revis. Gen. Pl. III: 324 (1898). Type: Kuntze s.n. (NY!).
H. cryptopetala R. E. Fries, Ark. f. Bot. 8(8): 47 (1908). Type: R. E. Fries 1396 (Lectotype, S!, here designated; isolectotypes, P!, UPS!, US!).

Herbs to 60 cm tall; stolons to 30 cm long.

Leaves floating; blades ovate to elliptic, 5-7 cm long, 4-6 cm wide, with 5-7 veins, the apex round to weakly emarginate, the base cordate; petioles longer than blade, to 30 cm long; sheath to 5 cm long. Inflorescence with 2-5 flowers, often proliferating; peduncles to 30 cm long, 2-3 cm diam; bracts lanceolate to narrowly ovate, 3-4 cm long, 1-1.5 cm wide, the apex obtuse; pedicels erect, 2-5 cm long, 1.5-2.5 cm diam, terete to slightly 3-angled. Flowers 1.5-2 cm wide; sepals 12-15 mm long, 4-5 mm wide, ovate, without prominent midvein, the apex obtuse; petals erect, equal in length to or slightly shorter than sepals, yellow, 9-12 mm long, to 10 mm wide, the apex rounded. Stamens 4-6, in one series, the anthers ca. 2.5 mm long, ca. 1.1 mm wide, the filaments membraneous, ca. 3.5 mm long, ca. 1 mm broad, narrowing towards the ends, the staminodia numberous; carpels 4-5, 5-6 mm long. Fruit aggregated on reflexed peduncles, ca. 9 mm long, 3-4 mm diam; beak 1-1.5 mm long. Seeds flattened, ca. 1.5 mm long, ca. 1 mm broad, glandular pubescent, the glandular hairs to 0.1 mm long.

This is our most uncommon species, being known from only two collections, one in Bolivia and the other in western Brazil. An excellent illustration is available in Fries (1908).

4. Hydrocleys martii Seubert in Mart., Fl. bras. 3 (1): 116 (1847). Type: Martius s.n. (Lectotype, M!, here designated; isolectotypes, LE!, M!).
Ostenia uruguayensis Buchenau, Abh. Naturw. Ver. Bremen 19: 23 (1906). Type: Osten s.n. (Lectotype, BREM!, here designated).
H. uruguayensis (Buchenau) Pedersen, Bot. Tidskr. 57: 41 (1961). From Uruguay to southeastern Mato Grosso and north to Pará and east to the Atlantic.

5. Hydrocleys nymphoides (Willd.) Buchenau, Abh. Naturw. Ver. Bremen 2: 2 (1871). Type: Humboldt, s.n. (Holotype, BW, IDC microfiche 18477!)
Stratiotes nymphoides Willd., Sp. pl. 4: 821 (1805).
Limnocharis humboldtii Rich., Mém. Mus. Nat. Hist. 1: 369 (1815). (Based on type of S. nymphoides.)
Hydrocleys humboldtii (Rich.) Endl., Gen. pl. 129 (1836).
Vespuccia humboldtii (Rich.) Parl., Nuov. Gen. spec. monocot. 55 (1854).
Hydrocleys commersoni Rich., Mém. Mus. Nat. Hist.

1: 368 (1815). Type: Commerson s.n. (Holotype, P!).
Limnocharis commersoni (Rich.) Sprengel, Syst. veg. 2: 634 (1825).
Sagittaria ranunculoides Arrabida in Velloso, Fl. flumin. 10. pl. 32 (1827). Type: pl. 32! (Lectotype, here designated).
Hydrocleys azurea Schultes ex Seubert in Mart., Fl. bras. 3 (1): 118 (1847). Type: Martius s.n. (Lectotype, M!, here designated).

The species has two main areas of distribution, one in northern South America near the Pacific and Atlantic coasts from Ecuador to Suriname, and the other from Corrientes and Buenos Aires, Argentina north to Ceará, Brazil. The taxon has also recently been collected in the Dominican Republic, Guatemala, and the United States of America. These latter collections, especially, are probably escaped from cultivation and may not be persisting.

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